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=> "virus like particle"
    295747 "VIRUS"
    63611 "VIRUSES"
    306454 "VIRUS"
        ("VIRUS" OR "VIRUSES")
    604841 "LIKE"
    209 "LIKES"
    605019 "LIKE"
        ("LIKE" OR "LIKES")
    596378 "PARTICLE"
    676184 "PARTICLES"
    1012961 "PARTICLE"
        ("PARTICLE" OR "PARTICLES")
L1    1803 "VIRUS LIKE PARTICLE"
        ("VIRUS" (W) "LIKE" (W) "PARTICLE")

=> p

L2    2193315 p

=> pipillomavirus and L1
    1 PIPILLOMAVIRUS
L3    0 PIPILLOMAVIRUS AND L1

=> Papillomavirus and L1
    7311 PAPILLOMAVIRUS
    1207 PAPILLOMAVIRUSES
    7398 PAPILLOMAVIRUS
        (PAPILLOMAVIRUS OR PAPILLOMAVIRUSES)
L4    340 PAPILLOMAVIRUS AND L1

=> "major coat protein" and L4
    529398 "MAJOR"
    1025 "MAJORS"
    530287 "MAJOR"
        ("MAJOR" OR "MAJORS")
    42335 "COAT"
    9877 "COATS"
    48954 "COAT"
        ("COAT" OR "COATS")
    1599026 "PROTEIN"
    1100862 "PROTEINS"
    1852363 "PROTEIN"
        ("PROTEIN" OR "PROTEINS")
    340 "MAJOR COAT PROTEIN"
        ("MAJOR" (W) "COAT" (W) "PROTEIN")
L5    2 "MAJOR COAT PROTEIN" AND L4

=> "chimeric major coat protein"
    37949 "CHIMERIC"
    24 "CHIMERICS"
    37958 "CHIMERIC"
        ("CHIMERIC" OR "CHIMERICS")
    529398 "MAJOR"
    1025 "MAJORS"
    530287 "MAJOR"
        ("MAJOR" OR "MAJORS")
    42335 "COAT"
    9877 "COATS"
    48954 "COAT"
        ("COAT" OR "COATS")
    1599026 "PROTEIN"
    1100862 "PROTEINS"

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1852363 "PROTEIN"
      ("PROTEIN" OR "PROTEINS")
L6      0 "CHIMERIC MAJOR COAT PROTEIN"
      ("CHIMERIC" (W) "MAJOR" (W) "COAT" (W) "PROTEIN")

=> fusion (w) protein
      225478 FUSION
      8443 FUSIONS
      230018 FUSION
      (FUSION OR FUSIONS)
      1599026 PROTEIN
      1100862 PROTEINS
      1852363 PROTEIN
      (PROTEIN OR PROTEINS)
L7      36652 FUSION (W) PROTEIN

=> papillomavirus and L7
      7311 PAPILLOMAVIRUS
      1207 PAPILLOMAVIRUSES
      7398 PAPILLOMAVIRUS
      (PAPILLOMAVIRUS OR PAPILLOMAVIRUSES)
L8      426 PAPILLOMAVIRUS AND L7

=> "coat protein" and L8
      42335 "COAT"
      9877 "COATS"
      48954 "COAT"
      ("COAT" OR "COATS")
      1599026 "PROTEIN"
      1100862 "PROTEINS"
      1852363 "PROTEIN"
      ("PROTEIN" OR "PROTEINS")
      7176 "COAT PROTEIN"
      ("COAT" (W) "PROTEIN")
L9      6 "COAT PROTEIN" AND L8

=> "L1 protein"
      21845 "L1"
      1599026 "PROTEIN"
      1100862 "PROTEINS"
      1852363 "PROTEIN"
      ("PROTEIN" OR "PROTEINS")
L10     355 "L1 PROTEIN"
      ("L1" (W) "PROTEIN")

=> L10 and L8
L11     37 L10 AND L8

=> "E1 protein"
      33972 "E1"
      1599026 "PROTEIN"
      1100862 "PROTEINS"
      1852363 "PROTEIN"
      ("PROTEIN" OR "PROTEINS")
L12     478 "E1 PROTEIN"
      ("E1" (W) "PROTEIN")

=> L11 and L12
L13     2 L11 AND L12

=> "E2 protein" and L11
      48248 "E2"
      1599026 "PROTEIN"
      1100862 "PROTEINS"

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1852363 "PROTEIN"
      ("PROTEIN" OR "PROTEINS")
938 "E2 PROTEIN"
      ("E2" (W) "PROTEIN")
L14      1 "E2 PROTEIN" AND L11

=> "E6 protein" and L11
      5070 "E6"
1599026 "PROTEIN"
1100862 "PROTEINS"
1852363 "PROTEIN"
      ("PROTEIN" OR "PROTEINS")
474 "E6 PROTEIN"
      ("E6" (W) "PROTEIN")
L15      0 "E6 PROTEIN" AND L11

=> "7 protein" and L11
      2419665 "7"
1599026 "PROTEIN"
1100862 "PROTEINS"
1852363 "PROTEIN"
      ("PROTEIN" OR "PROTEINS")
1547 "7 PROTEIN"
      ("7" (W) "PROTEIN")
L16      0 "7 PROTEIN" AND L11

=> "E7 protein" and L11
      4490 "E7"
1599026 "PROTEIN"
1100862 "PROTEINS"
1852363 "PROTEIN"
      ("PROTEIN" OR "PROTEINS")
685 "E7 PROTEIN"
      ("E7" (W) "PROTEIN")
L17      2 "E7 PROTEIN" AND L11

=> chimeric and L11
      37949 CHIMERIC
      24 CHIMERICS
      37958 CHIMERIC
      (CHIMERIC OR CHIMERICS)
L18      17 CHIMERIC AND L11

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L11 ANSWER 37 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1988:467842 CAPLUS

DOCUMENT NUMBER: 109:67842

TITLE: Analysis of the L1 gene product of human
papillomavirus type 16 by expression in a
vaccinia virus recombinant

AUTHOR(S): Browne, Helena M.; Churcher, Mark J.; Stanley,
Margaret A.; Smith, Geoffrey L.; Minson, Anthony C.
CORPORATE SOURCE: Dep. Pathol., Univ. Cambridge, Cambridge, UK

SOURCE: **Journal of General Virology** (1988), 69(6), 1263-73
CODEN: JGVIAI; ISSN: 0022-1317

DOCUMENT TYPE: Journal

LANGUAGE: English

ABSTRACT:

The L1 open reading frame of human **papillomavirus** type 16 (HPV16) has been expressed in vaccinia virus under the control of both the 7.5 K early and late promoter, and the 4b major late promoter. Antibodies to a β -galactosidase **fusion protein** containing a C-terminal portion of the HPV16 L1 gene product were used to compare the levels of L1 expression in the two recombinants, and showed that greater levels of expression were obtained when the gene was placed under the control of the 4b late promoter. Immunofluorescence studies revealed a nuclear location of the L1 gene product when expressed in vaccinia virus. Antibodies to the β -galactosidase **fusion protein** detected a major polypeptide species of 57 kilodaltons (kd) and a minor species of 64 kd in Western blots of recombinant-infected cell lysates. The 64 kd species was not detected when cells were infected in the presence of tunicamycin, indicating that the primary translation product of the HPV16 L1 open reading frame is modified by N-linked glycosylation when expressed in vaccinia virus. Whereas antibodies to HPV16 L1 *****fusion*** proteins** and to a peptide containing amino acids from the C terminus of HPV16 L1 reacted well in Western blots with the HPV16 L1 target expressed in vaccinia virus, no reactivity was observed with antibodies to bovine **papillomavirus** type 1 particles or to a HPV6b **fusion protei**

✓ J. Virolog. ✓ 1990 64 (9) 4399-406 ✓ 7

✓ J. of ^{General} Virology ✓ 1988 69 (6) 1263-73 ✓ " 18

✓ 1989 70 (11) 69-77 ✓ U 8 26

✓ 1989 70 (11) 2973-87 ✓ 15 41

✓ ~~1989~~ 1996 216 (4) 35-45 11 52

✓ Virology ✓ 1994 201 (1) 46-54 9 61

✓ 1990 178 (1) 238-46 ✓ 9 70

L11 ANSWER 36 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1988:546101 CAPLUS

DOCUMENT NUMBER: 109:146101

TITLE: Identification of the bovine **papillomavirus**
L1 gene product using monoclonal antibodies

AUTHOR(S): Cowser, Lex M.; Pilacinski, W. P.; Jenson, A. Bennett
CORPORATE SOURCE: Dep. Microbiol., Georgetown Univ., Washington, DC,
20007, USA

SOURCE: Virology (1988), 165(2), 613-15

CODEN: VIRLAX; ISSN: 0042-6822

DOCUMENT TYPE: Journal

LANGUAGE: English

ABSTRACT:

Monoclonal antibodies (MoAbs) produced against SDS-disrupted bovine
papillomavirus type 1 (BPV-1) were used to identify the product of the
L1 open reading frame (ORF) of BPV-1. MoAbs were tested in ELISA with purified
BPV-1 major capsid protein (MCP), **fusion proteins** from 2
constructions of the BPV-1 L1 ORF, and 1 construction of the L2 ORF. All MoAbs
reacted with purified MCP and both L1 **fusion proteins**. No
MoAbs were reactive with the L2 **fusion protein**. Polyclonal
antisera raised against SDS-disrupted BPV-1 were immunoreactive with both L1
and the L2 **fusion proteins**. These data show that the L1
ORF of BPV-1 encodes, at least in part, the MCP of BPV-1. Further, it has been
shown that the L1 encodes the **papillomavirus** (PV) genus-specific
epitope, PV broadly cross-reactive epitope, BPV minimally cross-reactive
epitope, and a BPV-1 type-specific epitope.

ACCESSION NUMBER: 1989:93221 CAPLUS

DOCUMENT NUMBER: 110:93221

TITLE: Reactivities of polyclonal and monoclonal antibodies raised to the major capsid protein of human **papillomavirus** type 16

AUTHOR(S): Patel, Daksha; Shepherd, Philip S.; Naylor, Jennifer A.; McCance, Dennis J.

CORPORATE SOURCE: United Med. Dent. Sch., Guy's Hosp., London, SE1 9RT, UK

SOURCE: **Journal of General Virology** (1989), 70(1), 69-77

CODEN: JGVIA Y; ISSN: 0022-1317

DOCUMENT TYPE: Journal

LANGUAGE: English

ABSTRACT:

Polyclonal and monoclonal antibodies were raised against a **fusion** *****protein***** containing β -galactosidase and part of the major capsid protein L1 of the human **papillomavirus** (HPV) type 16. The polyclonal antibodies cross-reacted with the **L1 protein** of several HPV types including HPV-1, -2, -6 and -11 when reacted with virus-infected tissue sections, and with HPV-6 and -18 L1 *****fusion*** proteins** on Western blotting. Monoclonal antibodies against the L1 **fusion** *****protein***** of HPV-16 reacted only with HPV-16 L1 **fusion** *****proteins***** on Western blots and with HPV-16-containing biopsy sections as assessed by in situ DNA-DNA hybridization. These antibodies did not detect HPV-6 **L1 protein** after Western blotting or in HPV-6-infected tissue sections, although one did react with an HPV-18 *****fusion*** protein** after Western blotting. The monoclonal antibodies were able to detect HPV-16 antigens in routine formaldehyde-fixed, wax-embedded sections of cervical intraepithelial neoplasm sections. HPV-16 *****L1*** proteins** were seen in one-third of biopsies that were pos. using the polyclonal cross-reacting antisera. Polyclonal antibodies to *****fusion*** proteins** containing part of the minor capsid protein L2 of HPV-6 or -16 appeared to be more type-specific as no cross-reactivity was seen when these antibodies were reacted with HPV-1- and -2-infected tissue sections.

L11 ANSWER 34 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1990:116820 CAPLUS

DOCUMENT NUMBER: 112:116820

TITLE: Identification of immunogenic regions of the major coat protein of human **papillomavirus** type 16 that contain type-restricted epitopes

AUTHOR(S): Cason, John; Patel, Daksha; Naylor, Jennifer; Lunney, Declan; Shepherd, Philip S.; Best, Jennifer M.; McCance, Dennis J.

CORPORATE SOURCE: Richard Dimbleby Lab. Cancer Virology, London, SE1 7EH, UK

SOURCE: **Journal of General Virology** (1989), 70(11), 2973-87
CODEN: JGVIAY; ISSN: 0022-1317

DOCUMENT TYPE: Journal

LANGUAGE: English

ABSTRACT:

Regions were identified of the major capsid protein, L1, of the human *****papillomavirus***** (HPV) type 16 (HPV-16 L1), that are recognized by 5 monoclonal antibodies (MAbs) raised to a bacterial **fusion** *****protein***** containing residues 172-375 of HPV-16 L1. All 5 MAbs recognized HPV-16-infected tissue sections by immunohistochem., but not sections infected with HPV-1a (cutaneous warts), HPV-6b or -11 (genital warts). MAbs 3D1, 5A4, and 1D6 also recognized HPV-2-infected sections (cutaneous warts); MAb 8C4 recognized only sections containing HPV-16. Four MAbs (8C4, 3D1, 1D6, and 5A4) recognized a synthetic peptide corresponding to residues 269-284 of HPV-16 L1; within this region a min. antibody binding site was identified, a tripeptide 276-278. However, the complete epitope appears to extend beyond these residues and beyond HPV-16 L1 (269-284). The 5th MAb, 1C6, recognized bacterial *****fusion*** proteins** containing HPV-6b L1, -16 L1 or -18 L1 using immunoblots, yet appeared HPV-16-specific when tested on infected tissue sections. This MAb recognized 5 amino acids within a different region of HPV-16 L1 (residues 299-313).

L11 ANSWER 33 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1990:513478 CAPLUS

DOCUMENT NUMBER: 113:113478

TITLE: Prevalence of antibodies to human
papillomavirus type 8 in human sera

AUTHOR(S): Steger, Gertrud; Olszewsky, Marelies; Stockfleth,
Eggert; Pfister, Herbert

CORPORATE SOURCE: Inst. Klin. Mol. Virol., Friedrich-Alexander Univ.,
Erlangen, D-8520, Germany

SOURCE: **Journal of Virology** (1990), 64(9), 4399-406

CODEN: JOVIAM; ISSN: 0022-538X

DOCUMENT TYPE: Journal

LANGUAGE: English

ABSTRACT:

The epidermodysplasia verruciformis-associated human **papillomavirus** type 8 (HPV-8) poses a high risk for malignant conversion of skin lesions in patients with epidermodysplasia verruciformis. For seroepidemiol. studies, the HPV-8 open reading frames for E1, E2, E4, E6, E7, and L1 were bacterially expressed as β -galactosidase **fusion proteins**, which were purified by preparative gel electrophoresis. Cleavage with the protease FXa at the engineered recognition site separated the β -galactosidase polypeptide part from the viral polypeptide. Western blot anal. of 445 serum samples from a randomly selected population with the entire L1 as antigen revealed HPV-8-specific IgG antibodies in 20% of the samples. The percentage of pos. sera did not differ in different age groups. In some sera, IgM antibodies were also detected. The use of two shortened L1 polypeptides as antigen indicated that there are at least two reactive epitopes in the case of HPV-8 L1. Several sera contained antibodies to the early proteins E1, E2, E4, and E7. E1 and E7 were predominantly detected by sera which were neg. for L1. In one case, antibodies were found to E6. Two of four sera of patients with epidermodysplasia verruciformis reacted with HPV-8 L1. The prevalence of anti-HPV-8-L1 antibodies in patients with malignant melanomas was comparable to that in the normal population (27.8%) but was higher in patients with cervical cancer (37.5.cxa.), basaliomas (40%), and squamous cell skin carcinomas (72.7%) and in immunocompromised patients with Hodgkins's disease (47.7%)

L11 ANSWER 32 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1990:527345 CAPLUS

DOCUMENT NUMBER: 113:127345

TITLE: Coexpression of the human **papillomavirus** type 16 E4 and L1 open reading frames in early cervical neoplasia

AUTHOR(S): Crum, Christopher P.; Barber, Shannon; Symbula, Millie; Snyder, Kim; Saleh, Abdel M.; Roche, James K.
CORPORATE SOURCE: Health Sci. Cent., Univ. Virginia, Charlottesville, VA, 22908, USA

SOURCE: Virology (1990), 178(1), 238-46

DOCUMENT TYPE: CODEN: VIRLAX; ISSN: 0042-6822

LANGUAGE: Journal

ABSTRACT: English

Although the E4 open reading frame (ORF) of human **papillomaviruses** (HPV) encodes an abundant protein in cutaneous warts, the location and extent of HPV E4 expression in genital precancers, specifically those associated with HPV-16, has not been described. Expression plasmids (pATH) containing segments of the HPV-16 E4 (3401-3620) and L1 (6151-6792) open reading frames (ORFs) were induced and expressed in bacteria and the resulting **fusion** ***proteins*** were used to elicit antisera in rabbits. Antisera reacting to the E4 and L1 components of the **fusion proteins** were used to screen biopsies from 150 cervical precancers (cervical intraepithelial neoplasia) and condylomata. Six biopsies exhibited specific immunostaining with the anti-E4 sera. Staining was cytoplasmic, and occurred virtually always in foci containing immunostaining for **L1 proteins**. Moreover, anal. of these 6 cases and 22 others for HPV-16 RNA by RNA-RNA in situ hybridization demonstrated a similar correlation between E4 immunostaining and the presence of abundant transcripts specific to HPV-16. These data are consistent with the hypothesis that expression of the HPV-16 E4 ORF is dependent upon viral replication and epithelial differentiation, similar to L1 expression, and that E4 epitopes identified by the rabbit antisera may be unique to HPV-16 relative to other common cervical **papillomaviruses**

L11 ANSWER 29 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1991:672476 CAPLUS

DOCUMENT NUMBER: 115:272476

TITLE: Expression of the L1 gene of a variant of human
papillomavirus type 6 (HPV6BV) in E. coli

AUTHOR(S): Shu, Lili; Feng, Huimin; Hou, Yunde

CORPORATE SOURCE: Natl. Lab. Mol. Virol. Genet. Eng., Beijing, Peop.
Rep. China

SOURCE: Zhonghua Weishengwuxue He Mianyixue Zazhi (1991),
11(3), 137-9

DOCUMENT TYPE: CODEN: ZWMZDP; ISSN: 0254-5101

LANGUAGE: Journal

ABSTRACT: Chinese

The L1 gene of a variant of human **papillomavirus** (HPV6BV) isolated from a Chinese woman with condyloma acuminatum was successfully expressed in *Escherichia coli* as a **fusion protein**. The β -galactosidase/L1N fused protein reacted with both β -galactosidase antiserum and HPV antibody by Western blot technique. The E. coli-produced *****fusion*** protein** may be useful for laboratory diagnosis and epidemiol. survey

L11 ANSWER 25 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1994:293730 CAPLUS

DOCUMENT NUMBER: 120:293730

TITLE: Colocalization of human **papillomavirus** type 11 E1 E4 and **L1 proteins** in human

AUTHOR(S): Brown, Darron R.; Fan, Li; Jones, Julie; Bryan, Janine
CORPORATE SOURCE: Dep. Med., Richard L. Roudebush Veterans Adm. Med. Cent., Indianapolis, IN, 46202, USA

SOURCE: *Virology* (1994), 201(1), 46-54

CODEN: VIRLAX; ISSN: 0042-6822

DOCUMENT TYPE: Journal

LANGUAGE: English

ABSTRACT:

The most abundant viral mRNA species in tissues infected with HPV 11 consists of two exons, joining a short segment of open reading frame (ORF) E1 to ORF E4, potentially encoding an E1 E4 protein of 10 kDa. E4 gene products have previously been identified by immunohistochem. in human tissues infected with HPV 1 and HPV 16, and in HPV 11-infected rat cultures. The E1 E4 mRNA is produced in abundance in HPV 11-infected human foreskin implants grown in athymic mice. In contrast, the L1 mRNA is present at low levels and appears late in the course of infection. To characterize the relationship of these proteins, polyclonal rabbit antisera were produced against bacterially expressed HPV 11 trpE/E1 E4 and trpE/L1 *****fusion*** proteins** and tested in an immunohistochem. assay of paraffin-embedded sections of HPV 11-infected human foreskin tissue fixed with 10% buffered formalin phosphate or zinc formalin. In sections fixed with either fixative, the anti-L1 serum stained nuclei of cells in the upper spinous and granular layers. In contrast, the anti-E1 E4 serum stained the cell membrane and, to a lesser degree, the cytoplasm of cells in the upper spinous and granular layers of tissue fixed with zinc formalin, but not 10% buffered formalin phosphate. In sections treated with both the E1 E4 and L1 antisera, cell membrane staining occurred in the same cells that exhibited nuclear staining. The HPV 11 E1 E4 protein appears to be a cell membrane-associated protein. Expression of the HPV 11 E1 E4 and **L1 proteins** may be influenced by similar factors in differentiating cells.

ACCESSION NUMBER: 1996:94391 CAPLUS

DOCUMENT NUMBER: 124:142458

TITLE: Epithelial cells display separate receptors for
papillomavirus VLPs and for soluble L1 capsid
protein

AUTHOR(S): Qi, Hing Mei; Peng, Shi Wen; Hengst, Kylie; Evander,
Magnus; Park, David S.; Zhou, Jian; Frazer, Ian H.

CORPORATE SOURCE: Papillomavirus Res. Unit, Univ. Queensland,
Queensland, 4102, Australia

SOURCE: *Virology* (1996), 216(1), 35-45

CODEN: VIRLAX; ISSN: 0042-6822

PUBLISHER: Academic

DOCUMENT TYPE: Journal

LANGUAGE: English

ABSTRACT:

The authors examined the distribution of putative receptors for
papillomavirus (PV) capsid proteins on various cell types, using either
Hexahis HPV6b L1 ***fusion*** **protein** or synthetic HPV6b
virus-like particles (VLPs). Specific, saturable binding of VLPs to CV-1 cells
was demonstrated using 35S-labeled VLPs, with an average receptors number of
1+104/cell and a binding affinity constant (K_a) of 4+107 M. VLP
binding was quantitated by flow cytometry using a monoclonal antibody to the L1
capsid protein. Intense staining of epithelial and mesenchymal cells was observed
Some immature bone marrow-derived cells bound VLPs weakly, while the majority
of B lymphoma cells demonstrated no binding. Binding to 12 of 16 VLP receptor
pos. cell lines was abolished by trypsin pretreatment of cells. Removal of
cellular sialic acid or O-linked oligosaccharides sep. did not affect VLP
binding, which was enhanced about 25% when cells were pretreated with both
neuraminidase and O-glycosidase. Culture of cells with sufficient tunicamycin
to inhibit Con A binding did not diminish the binding of VLPs. Denatured
L1 **protein**, either from VLPs or expressed from *Escherichia*
coli as a Hexahis **fusion protein**, bound to a
trypsin-resistant structure on a range of cell types and did not block the
binding of VLPs to cells. Dual-fluorescence assay with a Burkitt lymphoma line
BL72 demonstrated that Hexahis L1 **protein** and VLPs bind to
sep. cell surface mols. on BL&2 cells. The authors conclude that the first
binding of PV virus to cells is via a widely distributed membrane protein
receptor(s) and that subsequent processing of particles may involve other
non-trypsin-sensitive structure(s) also displayed on the cell membrane

L11 ANSWER 23 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1996:379901 CAPLUS
 DOCUMENT NUMBER: 125:50771
 TITLE: Papilloma virus-like particles and **fusion proteins** for use in vaccines and their preparation
 INVENTOR(S): Gissmann, Lutz; Zhou, Jian; Mueller, Martin; Painstil, Jeanette
 PATENT ASSIGNEE(S): Medigene Gesellschaft fuer Molekularbiologische Diagnostik, Therapie und Technologie mbH, Germany
 SOURCE: PCT Int. Appl., 28 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9611272	A2	19960418	WO 1995-EP3974	19951009
WO 9611272	A3	19960926		
W: AU, BR, CA, JP, MX, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
DE 4435907	A1	19960411	DE 1994-4435907	19941007
DE 4435907	C2	19970724		
DE 19526752	A1	19970123	DE 1995-19526752	19950721
DE 19526752	C2	19970807		
AU 9642701	A1	19960502	AU 1996-42701	19951009
EP 809700	A1	19971203	EP 1995-934663	19951009
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE				
JP 11504801	T2	19990511	JP 1995-512335	19951009
US 6066324	A	20000523	US 1997-817335	19971002
US 6361778	B1	20020326	US 1999-397680	19990916
AU 760615	B2	20030522	AU 2000-10106	20000105
AU 2000010106	A5	20000316		
US 6599508	B1	20030729	US 2001-949404	20010906
PRIORITY APPLN. INFO.:				
			DE 1994-4435907	A 19941007
			DE 1995-19526752	A 19950721
			AU 1996-42701	A3 19951009
			WO 1995-EP3974	W 19951009
			US 1997-817335	A3 19971002
			US 1999-397680	A3 19990916

ABSTRACT:

Papilloma virus-like particles arising from the expression of genes for analogs of the viral structural proteins L1 or L2 in which one or more peptides are deleted are described for use in vaccines. The ability to form virus-like particles is at least the same as, preferably greater than that of native or in vitro production processes. The virus-like particles may be manufactured by expression of the cloned genes.

L11 ANSWER 20 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1998:1587 CAPLUS
 DOCUMENT NUMBER: 128:71620
 TITLE: Virus-like particles useful as a vector for delivering human **papillomavirus** genes E2 and L1/L2
 INVENTOR(S): Bloch, Marie-Aline
 PATENT ASSIGNEE(S): Pasteur Merieux Serums Et Vaccins, Fr.; Bloch, Marie-Aline
 SOURCE: PCT Int. Appl., 23 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: French
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9746693	A1	19971211	WO 1997-FR962	19970603
W: AU, CA, JP, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
FR 2749323	A1	19971205	FR 1996-7174	19960604
FR 2749323	B1	19980710		
AU 9730980	A1	19980105	AU 1997-30980	19970603
AU 725518	B2	20001012		
EP 910656	A1	19990428	EP 1997-926078	19970603
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, FI				
JP 2000511773	T2	20000912	JP 1998-500269	19970603
US 6420160	B1	20020716	US 1999-194927	19990429
PRIORITY APPLN. INFO.:			FR 1996-7174	A 19960604
			WO 1997-FR962	W 19970603

ABSTRACT:

The invention discloses a non-infectious virus-like particle (VLP) comprising (i) a capsid defining an internal space and constituted by all or part of the ***L1*** protein and optionally all or part of the E2 protein of a human **papillomavirus**, and, (ii) a nucleic acid mol. contained in the said internal space; the nucleic acid mol. comprising a region coding for a protein of interest, in particular an antigen or a cytokine. VLPs encoding chimeric proteins such as L1-E7 and L2-E7 are also claimed. Human ***papillomaviruses*** 1,6,10,11,16,18, 31, 33, 35, or 45 are claimed. The invention is exemplified by construction of a VLP contg.a HPV 16 mutant L1 gene in which the encoded protein contains aspartic acid or glutamic acid in place of histidine at position 202. Proteins such as cytokines, tumor antigens, or T-cell helper recognition proteins can also be encoded by the VLPs. The VLPs also contain the papillomaviral locus control region (LCR). Such VLP's can be administered in vivo and are particularly useful for vaccinal purposes in therapy or for prevention against all kinds of cancerous conditions or infections.

L11 ANSWER 19 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1998:239292 CAPLUS

DOCUMENT NUMBER: 128:279563

TITLE: Manufacture of human **papillomavirus** proteins
for vaccine use in attenuated microbial expression
hosts

INVENTOR(S): Haefliger, Denise Nardelli; Kraehenbuhl, Jean-Pierre

PATENT ASSIGNEE(S): Fondation Pour Le Perfectionnement Et La Recherche En
Gynecologie-Obstetrique, Switz.; Kiddie Simon John;
Haefliger, Denise Nardelli; Kraehenbuhl, Jean-Pierre

SOURCE: PCT Int. Appl., 42 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9815631	A1	19980416	WO 1997-GB2740	19971007
W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG			
AU 9745668	A1	19980505	AU 1997-45668	19971007
AU 730733	B2	20010315		
EP 932683	A1	19990804	EP 1997-944023	19971007
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI			
BR 9711881	A	20000118	BR 1997-11881	19971007
JP 2001506844	T2	20010529	JP 1998-517302	19971007
MX 9903286	A	20000131	MX 1999-3286	19990408
US 2002025328	A1	20020228	US 1999-288861	19990409
US 6458368	B1	20021001		
US 6251406	B1	20010626	US 1999-413807	19991007
US 2001029043	A1	20011011	US 2001-770405	20010129
PRIORITY APPLN. INFO.:			GB 1996-21091	A 19961009
			WO 1997-GB2740	W 19971007
			US 1999-288861	A3 19990409
			US 1999-413807	A1 19991007

ABSTRACT:

Human **papillomavirus** (HPV) proteins are manufactured in attenuated prokaryotic expression hosts for use as antigens in vaccines against the virus and thereby decreasing the risk of HPV-associated cancer. The proteins can be assembled into virus-like particles that can be used in vaccines. The preferred host is a PhoPc mutant of *Salmonella typhimurium*. Nasal immunization of mice with these particles led to strains-specific conformationally dependent and neutralizing antibodies in serum and genital secretions. The expts. also show that it is possible to assemble chimeric VLPs of an HPV including a fusion partner and that tumor protection can be induced.

L11 ANSWER 17 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1999:626063 CAPLUS
 DOCUMENT NUMBER: 131:241978
 TITLE: **Papillomavirus L1 protein**
 - and E protein-derived **fusion**
protein medicament for preventing or treating
 papilloma virus-specific tumors
 INVENTOR(S): Burger, Alexander; Hallek, Michael
 PATENT ASSIGNEE(S): Medigene Aktiengesellschaft, Germany
 SOURCE: PCT Int. Appl., 36 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9948518	A2	19990930	WO 1999-EP1996	19990324
WO 9948518	A3	19991202		
W: AU, CA, JP, MX, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
DE 19812941	A1	19991007	DE 1998-19812941	19980324
CA 2323573	AA	19990930	CA 1999-2323573	19990324
AU 9935214	A1	19991018	AU 1999-35214	19990324
AU 755242	B2	20021205		
EP 1064014	A2	20010103	EP 1999-916884	19990324
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2002509863	T2	20020402	JP 2000-537565	19990324
US 6352696	B1	20020305	US 2001-820764	20010330
US 2002039584	A1	20020404	US 2001-820765	20010330
US 2002197668	A1	20021226	US 2001-824017	20010403
US 6649167	B2	20031118		
US 2003021806	A1	20030130	US 2001-986118	20011107
US 6562351	B2	20030513		
PRIORITY APPLN. INFO.:				
			DE 1998-19812941 A	19980324
			US 1998-26896 A3	19980220
			WO 1999-EP1996 W	19990324
			US 2001-820764 A3	20010330

ABSTRACT:

A medicament is provided for preventing or treating human papilloma virus (HPV)-specific tumors which contains at least one **fusion** ***protein*** and optional suitable additives and/or auxiliary agents. The ***fusion*** **protein** is comprised of at least one L1 ***protein*** of one or more papilloma viruses and at least one E-protein of one or more papilloma viruses, whereby the **fusion protein** does not contain any papilloma virus nonspecific epitopes.

L11 ANSWER 15 OF 37 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2000:168686 CAPLUS

DOCUMENT NUMBER: 133:172703

TITLE: Efficient expression of human **papillomavirus**
type 16 (HPV16) capsid proteins L1 and L2 in
Escherichia coli

AUTHOR(S): Wang, Wenying; Zhou, Lanping; Sun, Yazhou

CORPORATE SOURCE: Beijing Friendship Hospital, Capital University of
Medical Sciences, Beijing, 100050, Peop. Rep. China

SOURCE: Zhonghua Shiyan He Linchuang Bingduxue Zazhi (1999),
13(4), 358-361

PUBLISHER: CODEN: ZSLZFS; ISSN: 1003-9279

DOCUMENT TYPE: Zhonghua Shiyan He Linchuang Bingduxue Zazhi Bianjibu

LANGUAGE: Journal

ABSTRACT: Chinese

The plasmids pET-30a-L1 and pET-30a-L2 containing human **papillomavirus**
type 16 (HPV16) capsid proteins L1 and L2 genes were constructed from the
pET-30a vector and expressed in Escherichia coli. The **fusion**
proteins 6xHis-L1 and 6xHis-L2 were expressed. Their mol. wts. Mr were
about 60000 and 97000 resp. The L1 and L2 proteins were expressed at a high
level in prokaryotic expression system, and L2 protein were more stable than
L1 **protein.**

ACCESSION NUMBER: 1990:116820 CAPLUS
DOCUMENT NUMBER: 112:116820
TITLE: Identification of immunogenic regions of the major
coat protein of human
papillomavirus type 16 that contain
type-restricted epitopes
AUTHOR(S): Cason, John; Patel, Daksha; Naylor, Jennifer; Lunney,
Declan; Shepherd, Philip S.; Best, Jennifer M.;
McCance, Dennis J.
CORPORATE SOURCE: Richard Dimbleby Lab. Cancer Virology, London, SE1
7EH, UK
SOURCE: Journal of General Virology (1989), 70(11), 2973-87
CODEN: JGVIA Y; ISSN: 0022-1317
DOCUMENT TYPE: Journal
LANGUAGE: English
ABSTRACT:

Regions were identified of the major capsid protein, L1, of the human
papillomavirus (HPV) type 16 (HPV-16 L1), that are recognized by 5
monoclonal antibodies (MAbs) raised to a bacterial fusion
protein containing residues 172-375 of HPV-16 L1. All 5 MAbs recognized
HPV-16-infected tissue sections by immunohistochem., but not sections infected
with HPV-1a (cutaneous warts), HPV-6b or -11 (genital warts). MAbs 3D1, 5A4,
and 1D6 also recognized HPV-2-infected sections (cutaneous warts); MAb 8C4
recognized only sections containing HPV-16. Four MAbs (8C4, 3D1, 1D6, and 5A4)
recognized a synthetic peptide corresponding to residues 269-284 of HPV-16 L1;
within this region a min. antibody binding site was identified, a tripeptide
276-278. However, the complete epitope appears to extend beyond these residues
and beyond HPV-16 L1 (269-284). The 5th MAb, 1C6, recognized bacterial
fusion proteins containing HPV-6b L1, -16 L1 or -18 L1 using
immunoblots, yet appeared HPV-16-specific when tested on infected tissue
sections. This MAb recognized 5 amino acids within a different region of
HPV-16 L1 (residues 299-313).

L14 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1998:1587 CAPLUS

DOCUMENT NUMBER: 128:71620

TITLE: Virus-like particles useful as a vector for delivering human **papillomavirus** genes E2 and L1/L2

INVENTOR(S): Bloch, Marie-Aline

PATENT ASSIGNEE(S): Pasteur Merieux Serums Et Vaccins, Fr.; Bloch, Marie-Aline

SOURCE: PCT Int. Appl., 23 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: French

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9746693	A1	19971211	WO 1997-FR962	19970603
W: AU, CA, JP, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
FR 2749323	A1	19971205	FR 1996-7174	19960604
FR 2749323	B1	19980710		
AU 9730980	A1	19980105	AU 1997-30980	19970603
AU 725518	B2	20001012		
EP 910656	A1	19990428	EP 1997-926078	19970603
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, FI				
JP 2000511773	T2	20000912	JP 1998-500269	19970603
US 6420160	B1	20020716	US 1999-194927	19990429
PRIORITY APPLN. INFO.:			FR 1996-7174	A 19960604
			WO 1997-FR962	W 19970603

ABSTRACT:

The invention discloses a non-infectious virus-like particle (VLP) comprising (i) a capsid defining an internal space and constituted by all or part of the ***L1*** **protein** and optionally all or part of the **E2** ***protein*** of a human **papillomavirus**, and, (ii) a nucleic acid mol. contained in the said internal space; the nucleic acid mol. comprising a region coding for a protein of interest, in particular an antigen or a cytokine. VLPs encoding chimeric proteins such as L1-E7 and L2-E7 are also claimed. Human **papillomaviruses** 1,6,10,11,16,18, 31, 33, 35, or 45 are claimed. The invention is exemplified by construction of a VLP contg. a HPV 16 mutant L1 gene in which the encoded protein contains aspartic acid or glutamic acid in place of histidine at position 202. Proteins such as cytokines, tumor antigens, or T-cell helper recognition proteins can also be encoded by the VLPs. The VLPs also contain the papillomaviral locus control region (LCR). Such VLP's can be administered in vivo and are particularly useful for vaccinal purposes in therapy or for prevention against all kinds of cancerous conditions or infections.

L18 ANSWER 16 OF 17 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1996:733934 CAPLUS

DOCUMENT NUMBER: 126:2474

TITLE: Synthetic human **papillomavirus** 6a and 11 major capsid protein L1 **chimeric** gene expression in *Saccharomyces cerevisiae* and use in vaccine development

INVENTOR(S): Hofmann, Kathryn J.; Jansen, Kathrin U.; Neeper, Michael P.; Joyce, Joseph G.; George, Hugh A.; Lehman, E. Dale

PATENT ASSIGNEE(S): Merck and Co., Inc., USA

SOURCE: PCT Int. Appl., 55 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9630520	A2	19961003	WO 1996-US4117	19960325
WO 9630520	A3	19961107		
W:	AL, AM, AU, AZ, BB, BG, BR, BY, CA, CN, CZ, EE, GE, HU, IS, JP, KG, KR, KZ, LK, LR, LT, LV, MD, MG, MK, MN, MX, NO, NZ, PL, RO, RU, SG, SI, SK, TJ, TM, TR, TT, UA, US, US, UZ, VN, AM, AZ, BY, KG, KZ			
RW:	KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG			
AU 9655277	A1	19961016	AU 1996-55277	19960325
AU 708111	B2	19990729		
CA 2216827	AA	19961003	CA 1996-2216827	19960326
EP 817852	A2	19980114	EP 1996-912467	19960326
EP 817852	B1	20030820		
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, FI			
CN 1185810	A	19980624	CN 1996-194196	19960326
JP 11503313	T2	19990326	JP 1996-529596	19960326
PL 183299	B1	20020628	PL 1996-322588	19960326
CZ 291375	B6	20030212	CZ 1997-3091	19960326
AT 247712	E	20030915	AT 1996-912467	19960326
PT 817852	T	20031231	PT 1996-96912467	19960326
ZA 9602526	A	19960904	ZA 1996-2526	19960329
NO 9704514	A	19971127	NO 1997-4514	19970929
US 6159729	A	20001212	US 1998-913462	19980126
PRIORITY APPLN. INFO.:			US 1995-413571	A1 19950330
			US 1995-413572	A1 19950330
			WO 1996-US4117	W 19960325

ABSTRACT:

The present invention is directed to a **chimeric** gene encoding human ***papillomavirus*** type 6a L1 **protein** fusion products with human **papillomavirus** type 11 L1 **protein**. The **chimeric** gene is expressed using *Saccharomyces cerevisiae* fermentation. The **fusion protein** has immunogenic properties useful for vaccine development and treatment of benign genital warts.

ACCESSION NUMBER: 1998:1587 CAPLUS
 DOCUMENT NUMBER: 128:71620
 TITLE: Virus-like particles useful as a vector for delivering human **papillomavirus** genes E2 and L1/L2
 INVENTOR(S): Bloch, Marie-Aline
 PATENT ASSIGNEE(S): Pasteur Merieux Serums Et Vaccins, Fr.; Bloch, Marie-Aline
 SOURCE: PCT Int. Appl., 23 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: French
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9746693	A1	19971211	WO 1997-FR962	19970603
W: AU, CA, JP, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
FR 2749323	A1	19971205	FR 1996-7174	19960604
FR 2749323	B1	19980710		
AU 9730980	A1	19980105	AU 1997-30980	19970603
AU 725518	B2	20001012		
EP 910656	A1	19990428	EP 1997-926078	19970603
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, FI				
JP 2000511773	T2	20000912	JP 1998-500269	19970603
US 6420160	B1	20020716	US 1999-194927	19990429
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			WO 1997-FR962	W 19970603

ABSTRACT:

The invention discloses a non-infectious virus-like particle (VLP) comprising (i) a capsid defining an internal space and constituted by all or part of the ***L1*** protein and optionally all or part of the E2 protein of a human **papillomavirus**, and, (ii) a nucleic acid mol. contained in the said internal space; the nucleic acid mol. comprising a region coding for a protein of interest, in particular an antigen or a cytokine. VLPs encoding ***chimeric*** proteins such as L1-E7 and L2-E7 are also claimed. Human ***papillomaviruses*** 1,6,10,11,16,18, 31, 33, 35, or 45 are claimed. The invention is exemplified by construction of a VLP contg.a HPV 16 mutant L1 gene in which the encoded protein contains aspartic acid or glutamic acid in place of histidine at position 202. Proteins such as cytokines, tumor antigens, or T-cell helper recognition proteins can also be encoded by the VLPs. The VLPs also contain the papillomaviral locus control region (LCR). Such VLP's can be administered in vivo and are particularly useful for vaccinal purposes in therapy or for prevention against all kinds of cancerous conditions or infections.

L18 ANSWER 14 OF 17 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1998:239292 CAPLUS
 DOCUMENT NUMBER: 128:279563
 TITLE: Manufacture of human **papillomavirus** proteins
 for vaccine use in attenuated microbial expression
 hosts
 INVENTOR(S): Haefliger, Denise Nardelli; Kraehenbuhl, Jean-Pierre
 PATENT ASSIGNEE(S): Fondation Pour Le Perfectionnement Et La Recherche En
 Gynecologie-Obstetrique, Switz.; Kiddle Simon John;
 Haefliger, Denise Nardelli; Kraehenbuhl, Jean-Pierre
 SOURCE: PCT Int. Appl., 42 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9815631	A1	19980416	WO 1997-GB2740	19971007
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9745668	A1	19980505	AU 1997-45668	19971007
AU 730733	B2	20010315		
EP 932683	A1	19990804	EP 1997-944023	19971007
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
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JP 2001506844	T2	20010529	JP 1998-517302	19971007
MX 9903286	A	20000131	MX 1999-3286	19990408
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US 6458368	B1	20021001		
US 6251406	B1	20010626	US 1999-413807	19991007
US 2001029043	A1	20011011	US 2001-770405	20010129
PRIORITY APPLN. INFO.:			GB 1996-21091	A 19961009
			WO 1997-GB2740	W 19971007
			US 1999-288861	A3 19990409
			US 1999-413807	A1 19991007

ABSTRACT:

Human **papillomavirus** (HPV) proteins are manufactured in attenuated prokaryotic expression hosts for use as antigens in vaccines against the virus and thereby decreasing the risk of HPV-associated cancer. The proteins can be assembled into virus-like particles that can be used in vaccines. The preferred host is a PhoPc mutant of Salmonella typhimurium. Nasal immunization of mice with these particles led to strains-specific conformationally dependent and neutralizing antibodies in serum and genital secretions. The expts. also show that it is possible to assemble **chimeric** VLPs of an HPV including a fusion partner and that tumor protection can be induced.

L18 ANSWER 13 OF 17 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1999:626063 CAPLUS

DOCUMENT NUMBER: 131:241978

TITLE:

Papillomavirus L1 protein
- and E protein-derived **fusion**
protein medicament for preventing or treating
papilloma virus-specific tumors
Burger, Alexander; Hallek, Michael
Medigene Aktiengesellschaft, Germany
PCT Int. Appl., 36 pp.

INVENTOR(S):

PATENT ASSIGNEE(S):

SOURCE:

CODEN: PIXXD2

DOCUMENT TYPE:

LANGUAGE:

Patent

German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

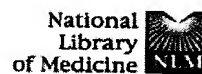
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9948518	A2	19990930	WO 1999-EP1996	19990324
WO 9948518	A3	19991202		
W: AU, CA, JP, MX, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
DE 19812941	A1	19991007	DE 1998-19812941	19980324
CA 2323573	AA	19990930	CA 1999-2323573	19990324
AU 9935214	A1	19991018	AU 1999-35214	19990324
AU 755242	B2	20021205		
EP 1064014	A2	20010103	EP 1999-916884	19990324
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2002509863	T2	20020402	JP 2000-537565	19990324
US 6352696	B1	20020305	US 2001-820764	20010330
US 2002039584	A1	20020404	US 2001-820765	20010330
US 2002197668	A1	20021226	US 2001-824017	20010403
US 6649167	B2	20031118		
US 2003021806	A1	20030130	US 2001-986118	20011107
US 6562351	B2	20030513		

PRIORITY APPLN. INFO.:

DE 1998-19812941	A	19980324
US 1998-26896	A3	19980220
WO 1999-EP1996	W	19990324
US 2001-820764	A3	20010330

ABSTRACT:

A medicament is provided for preventing or treating human papilloma virus (HPV)-specific tumors which contains at least one **fusion** *****protein***** and optional suitable additives and/or auxiliary agents. The *****fusion***** **protein** is comprised of at least one **L1** *****protein***** of one or more papilloma viruses and at least one E-protein of one or more papilloma viruses, whereby the **fusion protein** does not contain any papilloma virus nonspecific epitopes.



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- Search numbers may not be continuous; all searches are represented.

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#13	Search chimeric virus like particle and HPV Limits: Publication Date to 1998/03/27	13:43:44	<u>0</u>
#8	Search VLP and pappilomavirus Field: All Fields, Limits: Publication Date to 1998/03/27	13:35:48	<u>247</u>
#7	Search virus like particle and pappilomavirus Field: All Fields, Limits: Publication Date to 1998/03/27	13:35:24	<u>534</u>
#6	Search Rose R 1994 and Pappilomavirus	13:33:01	<u>42</u>
#4	Search Paintsil J 1996 and pappilomavirus	13:31:00	<u>1</u>
#1	Search Li M 1997 and papillomavirus	13:27:42	<u>2</u>

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